Warm-up

Matt Mitarnowski earned the following test scores:

93	87	91	92	95	100	86	82	91	97	87
-90	-90	-90	-90	-90	-90	-90	-90	-90	-90	-90
3	-3	1	2	5	10	-4	-8	1	7	-3

Use mental math to find the mean. Explain what you did.

Now add the smaller numbers and divide to get your

Sum = 11 $\qquad \frac{11}{11} = 1 \qquad$ 90 + 1 = 91

Section 3-3

Translations of Data

Translation of a data set: A translation that maps each data

Translation image: The new set of data points

General Rule: $T{:}x \rightarrow x + h$ or $T(x) = x + h$

Example 1

Ten students earned the following scores on a test.

93 95 91 96 88 90 93 95 80 100

Translate the data by subtracting 90 mentally to find the

$$3 + 5 + 1 + 6 - 2 + 0 + 3 + 5 - 10 + 10 = 21$$

$$21 \div 10 = 2.1$$

$$2.1 + 90 = 92.1$$

The average score was 92.1

Theorem (Measures of Center)

When you add h to each number in a data set, you add h

Theorem (Measures of Spread)

When you add b to each number in a data set, you do not

Example 2

A worker records the time it takes to get from home to the parking lot of the factory and finds a mean time of 20.6 minutes with a standard deviation of 3.5 minutes. If it consistently takes 5 minutes to get from the parking lot to his place in the factory, find the mean and standard deviation time it takes the worker to get from home to that place in the factory. How is this information useful?

Mean: 25.6 minutes

Standard Deviation: 3.5 minutes

Using this info, it means it takes him between 22.1 and

Homework

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